

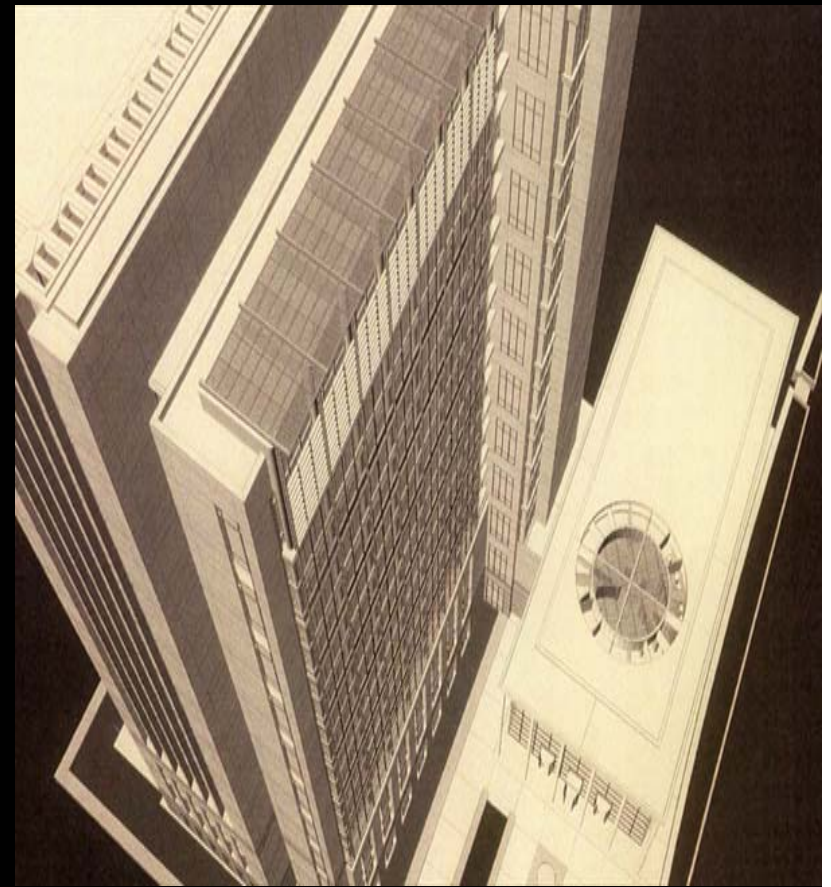
Sustainability: From Dreams to Operations

Making and Selling the Business Case



Rochester, New York
August 9, 2004

David Eakin, PE
Office of the Chief Architect
Public Buildings Service



Denver Courthouse

GSA Context

- Public/Federal Bldgs.
- Own/Manage Many Bldgs.
- Large Const. Program
- Long Life Buildings
- Serve Clients/Charge Rent
- Critical Operations
- Many Program Goals
- Leading Technologies
- We Contract Everything



Many Business Cases To Make

Many Motivations To Use/Contend

- **Developer/Owner**
- **Clients**
- **Designers**
- **Construction Manager**
- **Quality Assurance Team**
- **Construction Contractor**
- **Operating Staff**

The Business Case

Decisions Influenced By Cost Benefits, Principles, Direction

- **How Do I Get Everything When I Have a Limited Budget?**
 - **Program What You Want** (Scope/Cost)
 - **Integrate Your Decisions** (Go for Win-Win)
- **How Do I Know What I Am Doing Will Really Cost Less Over The Life of the Facility?** (Credibility, Deliverability)
 - **Life Cycle Cost Your Options** (If you can)
 - **Commissioning** (Total Building Commissioning)

The Business Case

- **How Do I Get Everything When I Have a Limited Budget?**
 - ***Program What You Want*** (Scope/Cost)
 - *Integrate Your Decisions* (Go for Win-Win)
- **How Do I Know What I Am Doing Will Really Cost Less Over The Life of the Facility?** (Credibility, Deliverability)
 - *Life Cycle Cost Your Options* (If you can)
 - *Commissioning* (Total Building Commissioning)



Program What You Want

i.e. You Have to Contract/Ask for It

- **Reference Sustainable Design Criteria**
 - **GSA's Facilities Standards (P-100)**
 - **Whole Building Design Guide**

Design Standards/Criteria

- **Stresses Integrated Design**
- **Energy Performance Goals**
- **LEED Certification and Energy Goals**
- **Life Cycle Costing**
- **Discipline/System Design Criteria**
- **Submission Requirements**
- **Defines Commissioning**

Available on the Internet: www.gsa.gov/p100

100-10000
U.S. FEDERAL BUDGET ADMINISTRATION
OFFICE OF THE CHIEF ARCHITECT



Whole Building Design Guide

Check It Out, It's FREE!

- **Multi-Agency Supported Portal to Technical Subjects/Information, Owned by NIBS**
- **Library: Access to Virtually All Federal/Private Sector Documents - Real Property Development**
- **Librarian: Explanatory Text With Hot-Links to Most Important Policy, Criteria, and Guidance**
- **Cross-References Facilitate Design Integration**
- **Continuously Updated**
- **Ask Questions, Provide Comments**

www.wbdg.org



WBDG Site Map

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Commissioning

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Related Links



Program What You Want

i.e. You Have to Contract/Ask for It

- Reference Sustainable Design Criteria
 - GSA's Facilities Standards (P-100)
 - Whole Building Design Guide
- **Know Your Application Costs (Premiums)**
 - **LEED Cost Study**
 - **Applications Guide**

Construction Cost Impacts

New Courthouse

	Certified		Silver		Gold	
	1A	2A	3A	4A	5A	6A
\$/GSF	(\$0.81)	\$2.32	(\$0.10)	\$8.96	\$2.47	\$17.19
% Change	-0.4%	1.1%	-0.1%	4.1%	1.1%	7.9%

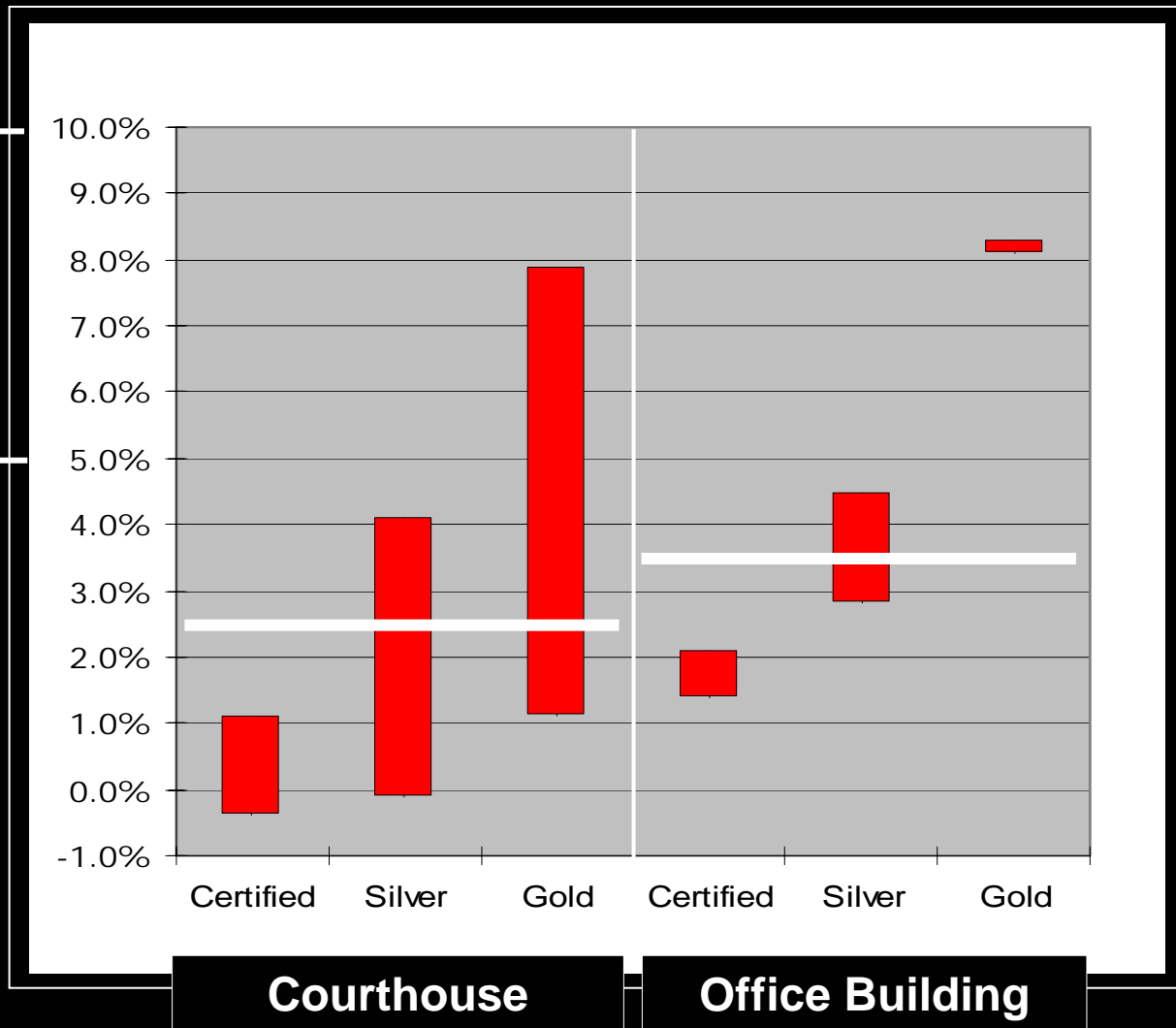
Office Building Modernization

	Certified		Silver		Gold	
	1B	2B	3B	4B	5B	6B
\$/GSF	\$1.79	\$2.73	\$3.60	\$5.97	\$10.65	\$10.65
% Change	1.4%	2.1%	2.8%	4.5%	8.3%	8.1%

Construction Cost Perspective

Design
Contingency

Estimating
Accuracy



What's In the Soft Costs?

Fees = Design for Construction Cost Premiums + the following...

- **Facilitate LEED Charrette**
- **Point of Contact**
- **Technology Advisor**
- **Develop LEED Action Items**
- **Materials/Systems Research**
- **LEED Calculations for IEQ Credits**
- **Energy Calculations**
- **LEED Credit Interpretations**
- **Specification Edits**
- **Coordinate LEED Submittals With CM**
- **Review Contractor Submittals**
- **Assemble LEED Documentation**



Design Team Fees

(With LEED Consultant)

New Courthouse

	Certified		Silver		Gold	
	1A	2A	3A	4A	5A	6A
In Thousands						
Design Fee Premium	\$83.8	\$97.7	\$83.8	\$120.1	\$134.0	\$182.5
LEED Documentation & Certification	\$22.4	\$22.4	\$23.6	\$23.6	\$26.0	\$26.0
Soft Cost Totals	\$106.1	\$120.1	\$107.5	\$144.6	\$159.9	\$208.5
Cost Impact (\$/GSF)	\$0.41	\$0.46	\$0.41	\$0.55	\$0.61	\$0.80

Office Modernization

	Certified		Silver		Gold	
	1A	2A	3A	4A	5A	6A
In Thousands						
Design Fee Premium	\$97.7	\$99.9	\$107.4	\$123.2	\$184.3	\$181.0
LEED Documentation & Certification	\$26.7	\$26.7	\$28.0	\$28.0	\$30.3	\$30.3
Soft Cost Totals	\$124.4	\$126.6	\$135.4	\$151.2	\$214.6	\$211.3
Cost Impact (\$/GSF)	\$0.41	\$0.41	\$0.44	\$0.49	\$0.70	\$0.69

Experienced Design Team Fees

(w/o Using LEED Consultant)

New Courthouse

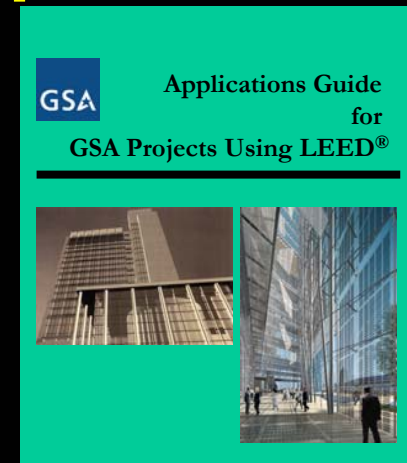
	Certified		Silver		Gold	
	1A	2A	3A	4A	5A	6A
	In Thousands					
Design Fee Premium	\$88.1	\$93.3	\$88.1	\$116.5	\$116.5	\$160.5
LEED Documentation & Certification	\$24.3	\$24.3	\$26.0	\$26.0	\$29.5	\$29.5
Soft Cost Totals	\$112.4	\$117.6	\$114.1	\$142.5	\$146.0	\$190.0
Cost Impact (\$/GSF)	\$0.43	\$0.45	\$0.44	\$0.54	\$0.56	\$0.73

Office Modernization

	Certified		Silver		Gold	
	1A	2A	3A	4A	5A	6A
	In Thousands					
Design Fee Premium	\$78.0	\$78.0	\$87.7	\$11.2	\$147.0	\$141.5
LEED Documentation & Certification	\$28.7	\$28.7	\$30.4	\$30.4	\$33.9	\$33.9
Soft Cost Totals	\$106.7	\$106.7	\$118.1	\$41.6	\$180.9	\$175.4
Cost Impact (\$/GSF)	\$0.35	\$0.35	\$0.38	\$0.43	\$0.59	\$0.57

LEED Applications Guide

- **Pre-Design LEED Evaluation Process**
- **Describes Typical Credits for GSA Projects**
- **Identification of Credits That Are:**
 - **GSA Mandates (P100)**
 - **No Cost Premium Strategies**
 - **Low Cost Strategies**
 - **Moderate Cost Strategies**
 - **High Cost Strategies**
- **Regional/Situational Considerations**
- **LEED Tasks, Organized by Project Phase**



Copies Available Soon

Whole Building Design Guide

WBDG
WHOLE BUILDING DESIGN GUIDE

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Project Management

Mandates / References

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CONSTRUCTION WHITE PAPER IHS

Welcome to the Whole Building Design Guide

A Building Professional's Gateway to Up-to-Date Information on Integrated, 'Whole Building' Design Techniques and Technologies

Participating Agencies:

Department of Defense
Department of Justice
Department of Energy
GSA
NASA
National Institutes of Health

WBDG Focus On

SECURITY

Browse through these and other pages to find out more about how security affects the overall function of a building and its design:

Design Objectives:
Secure/Safe

- Provide Security for Building Occupants and Assets
- Balancing Security/Safety & Sustainability Objectives

The "Whole Building" Design Approach

The goal of 'Whole Building' Design is to create a successful high-performance building. To achieve that goal, we must apply the integrated design approach to the project during the planning and programming phases. It is necessary for the people involved in the building design to interact closely throughout the design process. The owner, building occupants, and operation and maintenance personnel should be involved to capture their understanding of how the building and its systems will work for them once they occupy it. The fundamental challenge of 'whole buildings' design is to understand how all building systems are interdependent. More

www.wbdg.org



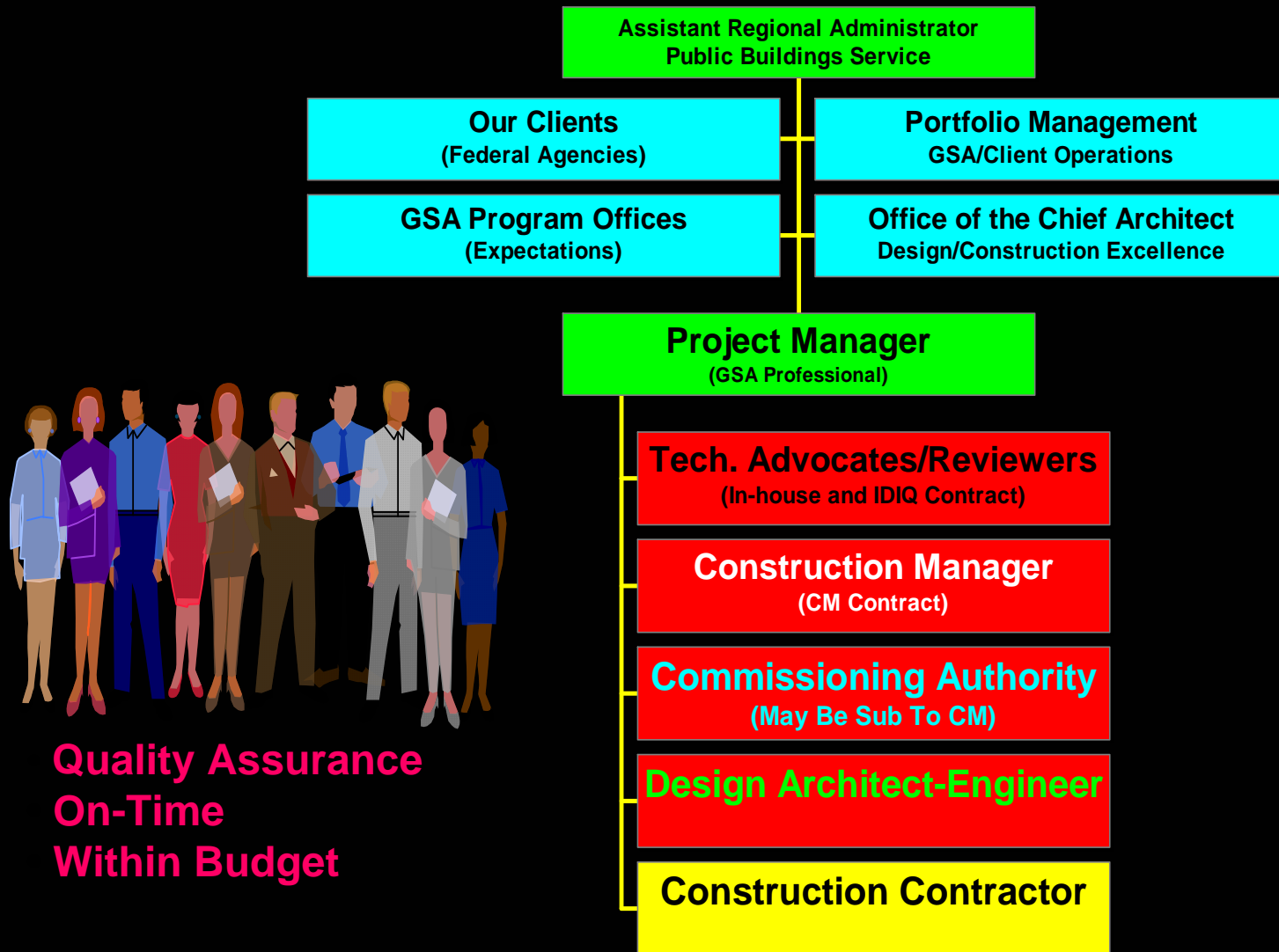
Program What You Want

i.e. You Have to Contract/Ask for It

- Reference Sustainable Design Criteria
 - GSA's Facilities Standards (P-100)
 - Whole Building Design Guide
- Relate To Known Cost Premiums
 - LEED Cost Study
 - Applications Guide
- **Contract for What You Want**
 - **Program Development**
 - **Incorporate Into A-E, CM, Cx Scopes**

Contracting the Delivery Team...

Whose On Your Side?



Who Is On Your Side?

Nobody – Unless You Pay for It / Work at It

- **Program Advocate** - Assume This is You ✓
- **Project Manager** ✗



The Project Manager's Plate...

Historic Preservation Facilities Management Review Code Policy
Project Planning Tool Quality Review Plan
High Wind WBDG POEs Project Planning Tool Research
Art In Architecture HVAC Excellence WinGard Fire Safety
Std. Form 330 CCB Design Excellence Security Turnover Accessibility
Project Development Facilities Standards Project Estimating Requirements
Good Neighbor Program LEED Cost Study Unit Cost Study
First Impressions PM Desk Guide Construction Excellence Value Engineering
Seismic Safety Courts Program RIA GCCRG
Progressive Collapse Commissioning Plan Tool D&C Prof. Services Est. Tool
Glazing Mitigation Presidential Design Awards Program Design Review Guides
GSA Design Awards Program DrChecks

Who Is On Your Side?

Nobody – Unless You Pay/Work At It

- **Program Advocate** - Assume This is You ✓
- **Project Manager** ✗
- **Architect-Engineer** ?
 - **Sustainability Consultant** - If Used ?
- **Construction Manager** ✗
 - **Commissioning Authority** ?
- **Construction Contractor** ✗
- **Client Agency** - If Tied To Productivity ?

Make Sustainability Part of the Client's Business Case

- **Explain Options in Terms They Understand**
 - Flexibility/Convenience/Reliability
 - Reduced Off-Hour Costs, vs Higher Costs
 - Comfort
 - IAQ, Health Issues (e.g. mold)
 - Productivity
- **Let the Client Know You're On Their Side**
- **Explain Benefits/Weaknesses of Options**
- **Get Them To Want Sustainability**
- **Let Them Advocate/Protect Your Ideas**

The Business Case

- **How Do I Get Everything When I Have a Limited Budget?**
 - *Program What You Want (Criteria/Cost)*
 - ***Integrate Your Decisions (Go for Win-Win)***
- *How Do I Know What I Am Doing Will Really Cost Less Over The Life of the Facility*
 - *Learn From What You/Others Have Done*
 - *Life Cycle Cost Your Options (If you can)*
 - *Commissioning (Persistence, Persistence, ...)*

Integrate Your Solutions

The Business Case Must Be Made Many Times!

- **Project Management Coordination**
 - Bring Together Delivery Team and Program Advocates
 - Involve Clients/Stakeholders
 - Expect PMs To Coordinate, Not Advocate
- **Proactive Design Direction** (Not Reactive)
 - Issues/Reminders Before Each Phase
 - Tell Delivery Team What You Know/Want

Integrate Program Goals

Systems		Aesthetics	Productivity	Sustainability	Security	Seismic	Fire Safety	Accessibility	Historic Pres.	Oper. & Main.
Foundations						3				
Basement Construction				2	2	3	2			2
Superstructure		2		2	3	3	2	2	2	
Exterior Walls		3	2	3	3	3	2		3	2
Exterior Glazing/Doors	Windows	3	3	3	3	2	2		2	3
	Doors	2	2	2	3	2	2	3	2	2
	Special, Atria	3	2	2	3	2	3		2	3
Roofing	Coverings	2		3	2		3		2	3
	Skylights	3	2	3	2		2			
Interior Partitions/Doors		3	2	2	3	2	3	3	2	2
Interior Access Floors			3	3	2	2	2			2
Interior Finishes	Wall Finishes	3	3	2	2		2			2
	Floor Coverings	3	3	3			2			3
	Ceiling Treatments	3	3	3		2	2			2
Conveyance Systems		3	2		2	2	2	3		3
Plumbing	Fixtures	2		3				3		2
	Dist. And Drainage									2
HVAC	Central Plant		3	3	2	2	2			3
	Air Distribution	2	3	3	2					3
Fire Protection					2		3			2
Service & Distribution	Main Power		2		2	3	2			
	Emergency Power		2	2	3	3	2			2
Light'g & Branch Wiring		3			2	2				3
Communications & Security			2		3	2	2			2
Equip. & Furnishings	Oper. & Maint.		3	2				2		3
	Food Services	2	2				2	2		2
	Fixed Furnishings	3	2	2			2	3		2
Special Building Const.		3	2	2	2	2	2	2	2	2
Demolition & Abatement	Bldg Elements			3					3	
	Hazard Mat.			3						
Sitework - Building Related	Site Prep.			3					2	
	Landscaping	3	2	3	2			2	2	3
	Utilities				2	3	2			2
Other Sitework - Project Related		3	2	2	2	2	2	3	2	2

Insure All Systems
Support Each Goal

Insure Each System
Supports All Goals

The Business Case

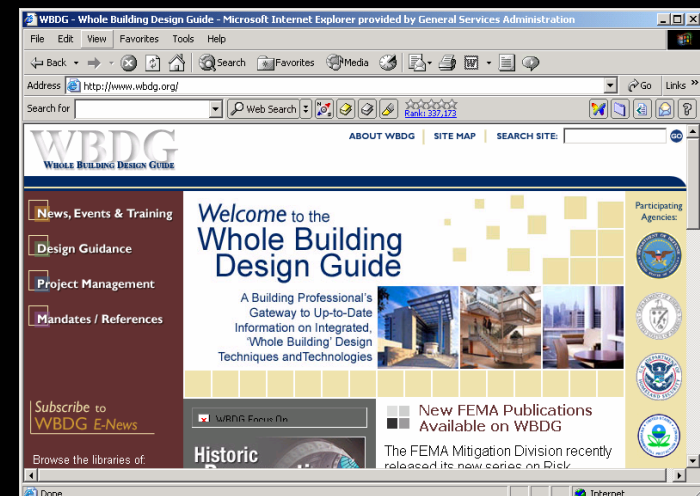
- How Do I Get Everything When I Have a Limited Budget?
 - *Program What You Want* (Scope/Cost)
 - *Integrate Your Decisions* (Go for Win-Win)
- **How Do I Know What I Am Doing Will Really Cost Less Over The Life of the Facility**
 - ***Life Cycle Cost Your Options*** (If you can)
 - ***Commissioning*** (Persistence, Persistence, ...)

Narrow Life Cycle Cost Opportunities

- 1 ✓ **Energy Efficiency**
(HVAC, Lighting, Envelope, BAS)
- 2 ✓ **Water Usage**
(Quantity, Purity)
- 3 ✗ **Materials/Systems**
(Recycling, Contaminants, Durability, Locally Available)
- 4 ✗ **Indoor Environment**
(IAQ, Acoustics, Odors)
- 5 ✗ **Facility Operations**
(O&M Replacements, Diagnostics, Flexibility, Access, Cleanability)
- 6 ✗ **Site and Transportation**
(Local Ecosystem, Public Transit)
- 7 ✗ **Construction**
(Packaging, Site Waste Mgt., Quality Assurance Testing and Start-up)



San Francisco Federal Building





Life Cycle Cost Your Decisions

(If you can)

- **You Can Optimize Your Energy Decisions**
- **You Can Consider Cost Benefits of Water Conservation**
- **Must Often Use We're "Stewards of the Environment" Arguments for the Rest**

The Business Case

- How Do I Get Everything When I Have a Limited Budget?
 - *Program What You Want* (Scope/Cost)
 - *Integrate Your Decisions* (Go for Win-Win)
- **How Do I Know What I Am Doing Will Really Cost Less Over The Life of the Facility**
 - *Life Cycle Cost Your Options* (If you can)
 - **Commissioning** (*Persistence, Persistence, ...*)

Commissioning

The Business Case to Assure Delivery

- **Required On GSA Capital Construction**
 - P-100 Defined, Commissioning Guides
 - LEED Criteria Implied Market
- **Total Building Commissioning**
 - ASHRAE, NBS, LEED, BOMA, PECEI, others
- **Need Commissioning Plan**
 - Quality Assurance Roadmap
 - Historically, Developed Too Late For Professional Services Contracts
 - Time Consuming, Very Expensive

HAVE I GOT A DEAL FOR YOU!



The Commissioning Plan Tool

Lets You Generate a Commissioning Plan That Is...

- **Project Specific** (Using Project Description Inputs)
- **Identifies Each Team Member's Roles**
- **Addresses All Project Stage Tasks**
- **Satisfies LEED Commissioning Credit**
- **Scope Defining for A-E, CM, and Cx Contracts**
- **Available To Anyone**
- **Delivered In 15 Minutes, Editable**
- **Free**



Commissioning Plan Tool

Project Planning Tools - Microsoft Internet Explorer provided by General Services Administration

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Address http://www.projectplanningtools.org Go Links

www.projectplanningtools.org

GSA U.S. General Services Administration

Project Planning Tools

Tools that simplify building project delivery.

New to the Project Planning Tools?

Sign up now to start using our online building project delivery tool.

[Register Now >](#)

Already registered? [Sign in Here >](#)



Project Planning Tools (PPT), Version 1.0, enables efficient planning, management, and delivery of building projects, increasing delivery team productivity while improving project quality. PPT is offered by the U.S. General Services Administration's Public Buildings Service to assist in delivering quality projects, on time, and within budget.

With PPT, Project Managers and Delivery Team Members can

- Clearly define project delivery processes
- Easily create project delivery documents
- Expedite integrated design and facilitate team building

NOTE: THE PROJECT PLANNING TOOLS SITE IS CURRENTLY UNDERGOING PROGRAMMING UPGRADES AND DE-BUGGING. YOU ARE WELCOMED TO TOUR AND TEST THE PPT WITH SAMPLE DATA DURING THIS TIME. COMMISSIONING PLANS CREATED SHOULD BE SAVED TO YOUR DESKTOP. PROJECT INFORMATION CREATED IN THE SYSTEM WILL BE SECURE AFTER UPGRADES ARE COMPLETE.

Comments

How can we make the PPT work better

PPT Training Planned for GSA Project Team Members

Training on the PPT will take place in all eleven GSA regions as well as at the

Done

Start

Microsoft PowerPoint - [P...]

Project Planning Tools...

Internet

1:34 PM

GSA



Enter Your Life Story...

The short version

Create a New Registration - Project Planning Tools - Microsoft Internet Explorer provided by General Services Administration

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Project Planning Tools

Tools that simplify building project delivery.

New Registration

User Profile

* = required field

First Name:	*	<input type="text"/>
Middle Name:		<input type="text"/>
Last Name:	*	<input type="text"/>
Organization:	*	<input type="text"/>
Address:		<input type="text"/>
City:		<input type="text"/>
State:		[Select] ▼
Province (if applicable):		<input type="text"/>
Country (if non-U.S.):		<input type="text"/>
Post Code:		<input type="text"/>
Phone:	*	<input type="text"/>
Alternate Phone:		<input type="text"/>
Fax:		<input type="text"/>

Done Internet

Start Microsoft PowerPoint - [P... Create a New Registra... 1:48 PM GSA

***“*” Are A Must Entry...
You create Your Password...***



Identify/Describe Your Project...

Basic Project Information - Project Planning Tools - Microsoft Internet Explorer provided by General Services Administration

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Project Planning Tools

Tools that simplify building project delivery.

Hoboken Courthouse

Project Details | Planner | Commissioning Plan | Notes

Basic Information | Building Systems | Program Goals

Enter basic information about your project. Click "Save" to

* = required field

Project Name:	*	Hoboken Courthouse
Address:		1234 Main Street
City:		Hoboken

Internet

Start PPT-AACE... Basic Proj... 8:08 PM GSA

For new projects, describe basic information, hit "save"

Identify Involved Systems...

Building Systems - Project Planning Tools - Microsoft Internet Explorer provided by General Services Administration

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Project Center | My Profile | Help | Logout

Project Planning Tools

Tools that simplify building project delivery.

Hoboken Courthouse

Basic Information Building Systems Program Goals

Uncheck the building systems NOT applicable to your project. Click "Save"

Substructure

Foundations

- ☒ Standard Foundations
- ☒ Special Foundations

Basement Construction

- ☒ Basement Excavation
- ☒ Basement Walls
- ☒ Slab on Grade

Superstructure

Superstructure

- ☒ Floor & Column Construction
- ☒ Roof Construction
- ☒ Stair Construction
- ☒ Special Superstructure Construction

Exterior Walls

- ☒ Exterior Wall Construction
- ☒ Special Wall Elements

Exterior Glazing & Doors

- ☒ Windows
- ☒ Doors
- ☒ Special Glazing

Roofing

- ☒ Roof Coverings & Insulation
- ☒ Skylights & Roof Openings

Interior Construction

Partitions, Doors & Specialties

Conveyance Systems

Conveyance Systems

Mechanical

Plumbing

Internet 8:12 PM

GSA

Now indicate those systems that are involved with the project, and hit "save"

Next Indicate Program Goals...

Program Goals - Project Planning Tools - Microsoft Internet Explorer provided by General Services Administration

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Project Planning Tools

Tools that simplify building project delivery.

Hoboken Courthouse

Project Details | Planner | Commissioning Plan | Notes

Basic Information | Building Systems | **Program Goals** | Team

Uncheck the program goals NOT applicable to your project. Click "Save" continue.

Program Goals

- ☒ Accessibility
- ☒ Aesthetics
- ☒ Fire & Life Safety
- ☐ Historic Preservation
- ☒ Maintainability
- ☒ Productivity
- ☒ Security
- ☐ Seismic Safety
- ☒ Sustainability

Save Cancel

Now indicate all program goals for the project, and hit "save"

Start | PPT-AAACEConf6-04 | Program Goals - Proje... | 8:15 PM | GSA

Now Identify Your Team...

Team - Project Planning Tools - Microsoft Internet Explorer provided by General Services Administration

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Project Planning Tools

Tools that simplify building project delivery.

Hoboken Courthouse

Basic Information Bu

Define your team. Enter team members for each role, as needed. After completion, click "Commissioning Plan" to view your team's commissioning plan.

Expand all Users | Print

Name:	Role:	Org:	Phone	
Project Creator				
David Eakin	Project Admin	U.S. General Services Administration	(202) 501-1726	Change Access
Architect-Engineer (AE)				
Norma Lee Overbudget	Read-only	Form Over Function, Inc	normal@formoverfunction.com	Change Access Del
Architecture/Landscape/Interiors Discipline (AL)				
Alfred E. Newman	Read-only	Work for Green, Inc	anewman@green.inc	Change Access Del
Client Agency(ies) (CL)				
Beth Shearer	Editor	Have Money will Travel	beth.shearer@comcast.net	Change Access Del

http://128.121.17.137/projects/team/default.aspx?projectId=34

Start PPT-AAACEConf6-04 Team - Project Planni... Internet 8:16 PM GSA

Finally, Enter Your Delivery Team Members, and hit "Save"

Note: Each Team Member will automatically get an E-Mail notice that they are on your project team, and your project will appear on their PPT project list

Commissioning Plan, Shazam!

Commissioning Plan - Project Planning Tools - Microsoft Internet Explorer provided by General Services Administration

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Project Planning Tools
Tools that simplify building project delivery.

Hoboken Courthouse

Project Details Planner Commissioning Plan Notes

Introduction	Management Protocols	Project Information	Commissioning Overview	Involved Building Systems	Role Definitions	Team Members	Certification Products & Documentation	General Schedule	Project Delivery Process
A	B	C	D	E	F	G	H	I	J

Print the Commissioning Plan

Use the above tabs to navigate through your Commissioning Plan. You may print out the entire commissioning plan by clicking the "Print" button on this page. Please be aware that generating the print version of the entire commissioning plan can take up to 1 minute.

Print the Commissioning Plan

Start PPT-AAACEConf6-04 Commissioning Plan - ... 8:23 PM GSA

All Commissioning Plan content is editable! Just click on a tab and change/add/delete what you want...

A Commissioning Plan now exists for your project, divided into tab sections A-J. Hit blue bar to print...

The Ultimate Scope Tool

Commissioning Plan - Project Planning Tools - Microsoft Internet Explorer provided by General Services Administration

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Address http://128.121.17.137/commissioningPlan/sectionJ.aspx Go Links

Levels to Expand: 4 Go

	Project Manager	Contracting Office	Office of Chief Arc	Office of Portfolio	Other CO Program	Portfolio Manager	Property Manager	Real Estate Office	Senior Regional	Arch/Landscape D	Electrical Discipline	Energy Coordinat	HVAC Discipline	Structural/Seismic	Fire/Life Safety	Cost Estimating/M	Fine Arts Officer	Historic Preservat	Architect-Engineer	Commissioning Au	Construction Mana	Construction Cont	IDIQ A-E	Client Agency(ies)	FPS/DHS	FSS (Schedules/M	FTSS
1 GENERAL PROJECT MANAGEMENT ACTIVITIES																											
1.1 Project Coordination																											
1.1.1 Project Management Plan																											
1.1.2 Initial PMP (Preliminary Planning Phase Draft)																											
1.1.2.1 Develop a Preliminary Project Management Plan (PMP).	L				S	S	S	F																			
1.1.2.2 Obtain review and input from team and other stakeholders.	L				S	S	S	F	F	F	F	F	F	F	F	F	F	F					F				
1.1.3 PMP for Prospectus Submission																											
1.1.3.1 Revise/update PMP for Prospectus submission (PMP for Prospectus Submission)	L	S			S	S	S	A	F	F	S	F	F	S	F	F							S	S	S	S	
1.1.3.2 Obtain required review and input from team and other stakeholders.	L	F			S	S	S	A	F	F	F	F	F	F	F	F							S				
1.1.3.3 Submit PMP for Prospectus Submission to OCA Program Coordinator for review and input.	L	R																									
1.1.4 Building Systems Description																											
1.1.4.1 Update Building Systems Description	L	S			S	S	S	F	F	F	F	F	F	F	F	F	F						F				
1.1.4.2 Review Building Systems Description	L	S			S	S	S	F	F	F	F	F	F	F	F	F							F				
1.1.5 Commissioning Plan - Design																											
1.1.5.1 Develop Commissioning Plan - Design	L	S			S	S	S	F	F	F	F	F	F	F	F	F	S					F	S	F	F	F	
1.1.6 Commissioning Plan - Design																											
1.1.7 Commissioning Plan - Design																											
1.1.7.1 Develop team member roles and responsibilities for planning phase, specific to housing plan space types and general building systems descriptions.	P									S	S	S	S										S				
1.1.8 Commissioning Plan - Design																											
1.1.8.1 Update the Commissioning Plan (Planning) to address/incorporate selected building systems and features as developed during the design phases.	A				S				S	S	S	S	S				S		P				F				
1.1.8.2 Determine and define special testing requirements, to be coordinated with																											

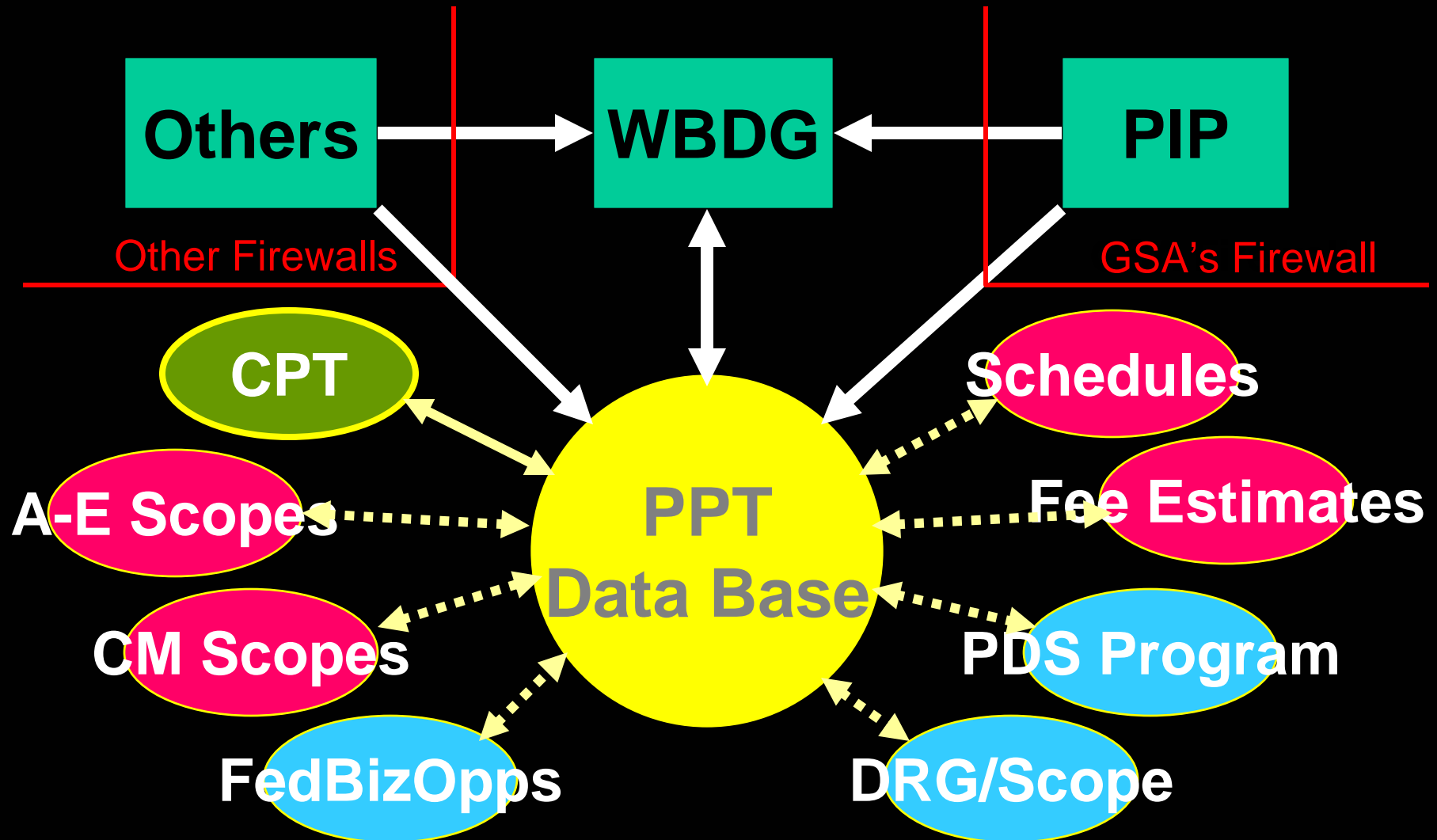
Note responsibility codes beside each task

The ultimate Scope of Work for Contractors, the ultimate communications guide for clients and staff...

Internet

Start PPT-AAConf6-04 Commissioning Plan - ... 8:31 PM GSA

Ultimate Business Case Platform



Delivery Paradigms

- **Identify Need**
- **Develop Criteria Doc**
- **Comments/Resolution**
- **Print/Issue Doc**
- **Follow-up Guide(s)**
- **User Inquiries**
- **Training**
- **Delivery Doc Prepared**
- **User Modifies Practice**
- **Find Out Year(s) Later**
- **Develop New Criteria**

Delivery Paradigms

Old

- **Identify Need**
- **Develop Criteria Doc**
- **Comments/Resolution**
- **Print/Issue Doc**
- **Follow-up Guide(s)**
- **User Inquiries**
- **Training**
- **Delivery Doc Issued**
- **User Modifies Practice**
- **Find Out Year(s) Later**
- **Develop New Criteria**

New

- **Identify Need**
- **Reflect In Database**
- **Delivery Doc Prepared**
- **Automatic Feedback**
- **Change Database**

Close The Business Case

- **Program Your Requirements**
 - Use Sustainable Criteria, WBDG
 - Define The Budget – Pay the Price
- **Define Business Case Arguments**
 - LCC for Some Sustainable Issues
 - Cultivate Project Team Alliances
- **Contract For It**
 - If You Don't Persue It, You Won't Get It
 - The PPT Is There To Help